

# (12) United States Patent

### Ahn et al.

## (54) METHOD AND APPARATUS FOR SECURING PORTABLE ELECTRONIC DEVICE TO ACCESSORY DEVICE

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(58) Field of Classification Search See application file for complete search history.

#### (56)**References Cited**

#### U.S. PATENT DOCUMENTS

5,020,090	Α	*	5/1991	Morris	455/556.1
5,264,992	Α		11/1993	Hogdahl et al.	

## (10) **Patent No.:**

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5,323,291	A	6/1994	Boyle et al.
5,436,857	Α	7/1995	Nelson et al.
5,463,742	Α	10/1995	Kobayashi
5,555,491	A	9/1996	Tao

#### (Continued)

#### FOREIGN PATENT DOCUMENTS

EP	2197185	A2	6/2010	
WO	2003026153	A1	3/2003	
WO	WO 03026153	A1	* 3/2003	 H04B 1/38
WO	2010110957	A2	9/2010	

#### OTHER PUBLICATIONS

Patent Cooperation Treaty, "PCT Search Report and Written Opinion of the International Searching Authority" for International Application No. PCT/US2012/020177 (CS38277) Apr. 4, 2012, 11 pages.

#### (Continued)

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#### (57)ABSTRACT

A system and method is described that includes a laptop style portable dock design referred to as the terminal system. The terminal system includes a user interface and provides a flip type dock located behind the terminal system display, and more particularly, but not exclusively, provides a flip type dock that when a mobile device is docked in the flip type dock. The terminal system provides power to the smart device, displays the smart device user interface on the terminal system display, and enables the user to use peripherals connected to the terminal system and interact with the smart device through the user interface of the terminal system. The terminal system provides a way to detachably mate a plurality of portable processor based devices to provide the combined functionality of the terminal system and smart device in an integrated structure.

#### 17 Claims, 10 Drawing Sheets



